

IN THE CLAIMS:

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1. A hand held terminal for optically scanning coded information, comprising:  
an electronic housing having a major axis, an intermediate axis and a minor axis  
and an optical scanning device mounted at a first longitudinal end thereof with respect to said  
major axis;

a multi-line information display arranged on a top surface of said electronic  
housing, said display facing in a direction corresponding to said minor axis;

a handle comprising a handgrip having a handle axis and extending outwardly  
from said electronic housing at a second longitudinal end thereof, said handle axis forming an  
angle of approximately 0 to 45 degrees from said major axis and being perpendicular to said  
intermediate axis; and

an operator control arranged on said top surface adjacent said second end of said  
ovoid electronic housing for operation by the thumb of a user.

2. A hand-held terminal as specified in claim 1 wherein there is provided a transverse  
rest stand on an end of said handle remote from said electronic housing.

3. A hand-held terminal as specified in claim 1 wherein an electrical connector is  
provided on an end of said handle remote from said electronic housing.

4. A hand-held terminal as specified in claim 1 wherein said display is recessed in said

top surface.


5. A hand-held terminal as specified in claim 1 wherein exterior facing surfaces of said avoid electronic housing comprise resilient, impact resistant material.

6. A hand-held terminal as specified in claim 1 wherein an indicator lamp is provided on said top surface of said electronic housing.

7. A hand-held terminal as specified in claim 1 further comprising a trigger on said handle.

8. A hand-held terminal as specified in claim 1 wherein said operator control comprises at least one button.

9. A hand-held terminal as specified in claim 1 wherein said operator control comprises a touch pad.

10. A cradle for receiving a hand-held terminal, said terminal comprising an ovoid electronic housing having a major axis, an intermediate axis and a minor axis and a handle comprising  a handgrip extending from a longitudinal end of said electronic housing with respect to said major axis and having a handle axis at an angle of approximately 15 to 40 degrees from said major axis, a said cradle comprising:

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a rectangular base having first and second sidewalls and a rear wall;  
a front wall comprising a concave cylindrical mounting surface arranged between  
said sidewalls; and  
a pocket extending outward from said mounting surface for receiving said handle  
with said housing partially surrounded by said cylindrical mounting surface.

11. A cradle as specified in claim 10 wherein said pocket is arranged at an angle with  
respect to said cylindrical mounting surface corresponding to said angle between said handle axis  
and said major axis.

12. A cradle as specified in claim 10 wherein said pocket includes an electrical connector  
for engaging an electrical connector on said handle of said terminal.

13. A cradle as specified in claim 10, wherein said pocket includes an open upper end for  
receiving said handle and a substantially closed lower end, said lower end having an opening for  
allowing debris to fall out of said pocket.

14. A cradle as specified in claim 13 wherein an electrical connector is provided at said  
lower end of said pocket.

15. A cradle as specified in claim 10 wherein said pocket includes a locking member.

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16. A cradle as specified in claim 15 wherein said locking member includes a locking circuit connected to an electrical connector in said pocket, and wherein said locking circuit is arranged to respond to an unlock data signal provided to said electrical connector.

17. A cradle as specified in claim 10 wherein at least a portion of said front wall is fabricated of translucent material and wherein a lamp is provided behind said front wall.

18. A cradle as specified in claim 17 wherein said lamp includes a lamp circuit connected to an electrical connector in said pocket, and responsive to a lamp data signal provided to said electrical connector.

19. A cradle as specified in claim 10 further including a member extending outwardly from said concave cylindrical mounting surface and facing said pocket for supporting an optically readable label.

20. A method for providing self-service terminals to shoppers in a retail establishment, comprising:

storing a terminal in a cradle, said cradle including a locking circuit and an electrical connector for supplying power to said terminals and for receiving data communication from said terminal and an optically readable label;

operating said terminal to read said label and communicate label data to a central computer by radio;

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reading customer provided identification at a customer service station and  
communicating identification data to said central computer;  
operating said central computer to verify said customer identification data and to  
select a terminal for use by said customer;  
sending a radio release signal from said central computer to said terminal;  
operating said terminal to send data communications to said cradle via said  
connector, said data communication operating said locking circuit; and  
notifying a customer of the selected terminal.

21. A method as specified in claim 20 wherein said notifying step comprises illuminating  
a portion of said cradle.

22. A method as specified in claim 20 wherein said notifying step comprises providing a  
message on a display screen.

23. An accessory for a handle on a shopping car or the like, comprising a body member,  
having a receiving portion arranged to receive a hand-held terminal, a clamping member  
connected to said body member and arranged to provide clamping action with respect thereto,  
said body member and said clamping member defining an intermediate bore for receiving said  
handle, and an interchangeable cylindrical clamp spacer having a periphery corresponding to the  
cross section of said bore and having an internal cylindrical hole with a cross section selected to  
closely surrounded said handle.

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24. An accessory as specified in claim 23 wherein said intermediate bore is circular, and comprises semi-circular cylindrical recesses on said body member and said clamping member.

25. An accessory as specified in claim 23 wherein said clamping member is pivotably connected to said body member at a first side of said intermediate bore and connected to said body member by a clamping screw at a second side of said intermediate bore.

26. An accessory as specified in claim 23 wherein said clamp spacer includes an axial slot.

27. An accessory for a handle of a shopping cart or the like, comprising a body member having a pocket for receiving a handle portion of a hand-held terminal, a clamping member pivotably connected to said body member on one end and clampingly connected to said body member at a second end, each of said body and clamping members having a recess in a surface thereof facing the other of said members, said recesses defining an intermediate bore between said members for receiving said shopping cart handle, and an interchangeable cylindrical claim spacer having an axial hole with a cross section selected to closely surround said handle and a periphery corresponding to the cross-section of said bore.

28. An electronic assembly for a hand-held data acquisition terminal comprising:

a lower housing member having an upper opening;

an upper housing member arranged to close said upper opening and including a

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display window;

a chassis arranged to be mechanically mounted between said lower and upper housing members, said chassis having upper and lower recesses;

a display mounted in said upper recess of said chassis and facing said display window;

a first circuit mounted in said lower recess of said chassis; and

a second circuit mounted to said chassis and covering said lower recess and said first circuit mounted therein.

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29. An electronic assembly as specified in claim 28 wherein one of said upper and lower housing members includes a window at a longitudinal end thereof, and wherein there is provided an optical scanner mounted adjacent on a support bracket carried by said chassis.

30. An electronic assembly as specified in claim 29 wherein said support bracket is mounted to said second circuit and comprises a non-conductive spacer, and wherein an antenna is mounted to said non-conductive spacer on a side opposite said second circuit.

31. A hand held terminal for optically scanning coded information, comprising:  
an electronic housing having a major axis, an intermediate axis and a minor axis and an optical scanning device mounted at a first longitudinal end thereof with respect to said major axis;

a multi-line information display arranged on a top surface of said electronic

housing, said display facing in a direction corresponding to said minor axis;

a handle comprising a handgrip having a handle axis and extending outwardly from an area in the vicinity of the bottom and rear surfaces of said electronic housing, said handle axis being located below the major axis and forming an angle of approximately 0 to 45 degrees from said major axis and being perpendicular to said intermediate axis; and

an operator control arranged on said top surface adjacent said second end of said electronic housing for operation by the thumb of a user.

32. The hand-held terminal of claim 31, wherein a machine code activation button is located on a forward portion of the handle extending onto the bottom surface of the electronic housing.

33. The hand-held terminal of claim 31, wherein the top surface of the electronic housing further comprises at least four keys for controlling the function of the terminal.

34. The hand-held terminal of claim 31, wherein the top surface further comprises a touch sensitive area for navigating and selection areas on the display.

35. The hand-held terminal of claim 31, wherein said terminal includes a scrolling button for scrolling information on the display, said button having a selection function activated by depressing the button towards the terminal housing.